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Results of the Survey on the Use of Passenger Air Bag On-Off Switches; Technical Report; Request for Comments
69 *Federal Register* 5660, February 5, 2004

Advocates for Highway and Auto Safety (Advocates) responds with the following comments to the National Highway Traffic Safety Administration (NHTSA) notice announcing the availability of, and requesting comments on, the technical report entitled *Results of the Survey on the Use of Passenger Air Bag On-Off Switches,* NHTSA Technical Report, DOT HS 809 689 (Nov. 2003) ("On-Off Switch Survey"). 69 *Federal Register* 5660 (Feb. 5, 2004). The report presents the results of an agency-sponsored survey on the use of passenger side air bag on-off switches in pick-up trucks. Air bag on-off switches are required to be installed by the manufacturer in new vehicles that do not have rear seats that can accommodate passengers, such as infants and children generally up to 13 years of age, who should not be seated in front of a functional air bag system that does not comply with the requirements for advanced air bags issued on May 12, 2000 at 65 *Federal Register* 30680 *et seq.*

Survey Methodology:

While the NHTSA has collected a great deal of information on the use of on-off switches in pick-up trucks, this essentially was a survey requiring information and response from vehicle drivers that was largely, although not entirely, self-reported information that could have greatly affected the results. Since this was not a scientifically conducted controlled study of the use of on-off switches, the data collected must be viewed as helpful

information that may not accurately reflect the true state of affairs regarding the use of passenger side air bag on-off switches.

In addition, there were several aspects of the data collection that should be considered in appraising the accuracy and usefulness of the results. First, data collection was planned to take place in nine different locations in four geographically diverse states. However, due to limited data collection at most sites, the vast majority of the surveys were conducted at only four locations, three in Texas and one in Georgia. These four sites collected 69 per cent (over two-thirds) of the data, but an even larger percentage, 86 per cent, of the survey responses regarding the use of on-off switches involving infant and child passengers. On-Off Switch Survey, pp. 7-8. Thus, the value of selecting these sites in the four states because those states "have the nation's highest rates of newer light truck registrations and because they represent diverse geographic locations[,]" *id.*, p. 4, was likely diminished as the bulk of the useable data does not reflect the intended geographic diversity and may, in fact, not be nationally representative.

Second, the plan for data collection should ideally have selected collection sites that followed the general distribution of late model pickup trucks by type of community or population density, *i.e.,* metropolitan (urban), suburban, and rural communities. The division of sites into either metropolitan or non-metropolitan may not adequately cover distinctions between suburban and rural areas where knowledge and use regarding air bag on-off switches may significantly vary. In any event, the planned data collection was to take place at nine sites, seven of which were characterized as metropolitan and only two as non-metropolitan. This site selection protocol evidently intended to collect far more survey data from metropolitan as opposed to non-metropolitan sites. This emphasis would be appropriate if it accurately reflects that most pickup trucks are owned and registered in metropolitan areas; however, it may have been done purely for convenience in order to ensure that the survey teams encountered a significant number of target vehicles. Despite the data collection plan, as noted above, most data came from four sites, two of which were identified as metropolitan and two of which were identified as non-metropolitan. As it turns out, the two non-metropolitan sites, Smith & Upshur Counties, Texas, and Muscogee County, Georgia, were first and second overall in providing survey results, yielding 798 and 647 surveys respectively. *Id.*, Table 4, p. 8. Although these were the only non-metropolitan sites in the survey, their survey total amounts to approximately 44 percent of all the individual surveys obtained during the data collection.

Third, the original data collection plan emphasized data collection at sites where there were comparatively large numbers of pickup trucks, i*d.*, p. 6, and, secondarily, at locations where pickup trucks were more likely to have child passengers. *Id.*, p. 7. While Advocates does not fault the survey for taking this approach in order to ensure obtaining a substantial number of surveys, choosing locations and facilities where there are large volumes of pickup trucks, as well as conducting the surveys at facilities "with the greatest likelihood that drivers would have passengers who were children[,]" *id.*, may certainly skew the results.

Effects on Passenger Fatalities:

The reliance on manufacturer-installed air bag on-off switches in vehicles without back seats was necessary to protect infants, children under the age of 13, and other at-risk groups in the front passenger seat. The survey indicates that a vast majority of drivers were knowledgeable about the presence of air bag on-off switches in their vehicles (98 percent), and that a similar number (97 percent) were aware of the switch setting at the time of the survey interview. *Id.*, Executive Summary, p. vii. Evidently, a large proportion of the target population of pickup truck owners/drivers received and understood at least some of the public information and safety messages regarding the use of air bag on-off switches. However, a smaller percentage of drivers interviewed, only 86 percent, correctly had the switch set on the "off" position when an infant in a rear-facing child restraint was positioned in the right front outboard passenger seat. *Id.* This was the highest rate of correct use reported in the survey. *Id.*

For children in front-facing child restraints and older children not in child restraints, the percentages declined as age increased for children up to age12 years. *Id.*, p. viii. Thus, although relatively high levels of pickup truck owners/drivers understood some information about the use of the air bag on-off switch in their vehicles, even the fairly successful rate of 86 percent correct use for infants still left an alarmingly large percentage (14 percent) of infants in rear facing infant seats at-risk from air bag deployments. The deterioration of the percentage for correct use of the air bag on-off switches for children as age increases to the point where less than half of the switches were in the "off" position for children ages 9-10 and older, *id.*, indicates that the public information is not sufficiently clear or that the message regarding protecting children up to age 12 is not getting through, either it is not being received or, more likely, the message is not being internalized and acted upon..

The survey also documents that the success in having the air bag on-off switch in the correct "on" position when a person age 13 and over is seated in the right front outboard passenger seat, is less than 100 percent for all age brackets. *Id.*, p. ix. Thus, the switch is incorrectly positioned and the air bag is turned off at least 15 percent of the time for passengers between 20 and 59 years of age, and 56 percent of the time for passengers 70 years of age and above. Once again, while the correct use of 85 percent and over indicates widespread success of the public information effort, the problem remains that a significant percentage of adults are seated in front of air bag systems that have improperly been turned off, thus exposing those passengers to greater risk of injury in the event of a serious crash.

The statistical analyses included in the report reveals that, overall, more lives will be saved by the presence of air bags in pickup trucks, even if the on-off switches are not properly set in all circumstances, than if air bags had not installed in these vehicles to begin with. *Id.*, pp. 31-32. However, the heightened risk from incorrect use of the on-off switches will continue over the life of all models of pickup trucks equipped with air bag on-off switches. Over the expected life of these vehicles the misuse of the switches will result in an estimated loss of 190 additional adult fatalities, *id.*, p. 35, and an unknown number of additional child fatalities, *id.*, p. 31. This, of course, not only erodes the life-saving benefits of air bags in these vehicles, but also presents a

dilemma as these pickup trucks are resold and are bought in the used vehicle market by persons who have not received the public information regarding the use of the air bag on-off switches. As these vehicles are passed along to used truck buyers, we can expect that the present rates of correct use will diminish. The analysis in the report for adult lives not saved due to incorrect use of air bag on-off switches assumes a 17 percent rate for air bags that are turned "off" when they should be "on." *Id.*, p. 35. The report acknowledges that the calculations of lives not saved would increase if the percentage of incorrect use of the on-off switches changed and increased. *Id.*

After careful review of the report, Advocates has several observations and suggestions. First, the use of air bag on-off switches was a necessary stop-gap measure that should be replaced by effective automatic protection built into advanced air bag systems. This is currently the plan, and manufacturer installation of on-off switches should be phased out by 2012. Second, it is clear that reliance on human intervention is a less than ideal situation. While the percentage for accurate use of air bag on-off switches has been high where infants and most adults are involved, it has not been as effective for children between the ages of 1 and 12 or for adults ages 70 and over. Thus, the NHTSA's decision not to permit widespread installation of air bag on-off switches on request in all vehicles, but to require an application and screening process for select at-risk groups, was a wise decision. Third, the report suggestions for next steps regarding public education should be modified to include efforts designed to reach second and third owners who purchase these pickup trucks in the used vehicle market. These subsequent purchasers may not have previously been aware of the existence and use of air bag on-off switches, and likely did not previously pay attention to the public information and safety messages regarding on-off switches. Fourth, the agency should consider the need for additional measures beyond public information to encourage trade-ins or other means of early retirement of pickup trucks with on-off switches from service. Finally, the agency should consider the need to speed up required installation of advanced air bag systems in pickup trucks in order to obviate the need for on-off switches and reduce the number of pickup trucks produced with on-off switches between now and 2012.

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